

1. An apparatus for adding functionality to a portable electronic device, comprising:

a housing sized to be accepted by a housing port of a portable electronic device; and

Q 43⁷ at least one latch, each latch comprising a first member, a second member, and a third member, each member having a first end and a second end, the first end of the first member connected to the first end of the second member such that the first member and the second member form an angle of between 60° and 130°, the second end of the first member connected to the first end of the third member such that the first member and the third member form an angle of between 60° and 130°;

wherein the housing includes at least one receptacle corresponding to each latch, each receptacle sized and positioned to accept one of the latches and direct said latch to a groove of the portable electronic device so that the third member mates with the groove to secure the housing to the portable electronic device.


2. The apparatus of claim 1, further comprising a slip-resistant surface sized to accept a human finger or thumb, the slip-resistant surface connected to the second end of the second member.

3. The apparatus of claim 1, wherein the housing includes an interior surface and an exterior surface, and further comprising a notch positioned substantially at a point where the first member connects to the second member, the notch sized and further positioned to engage a raised portion positioned on the interior surface of the housing.

4. The apparatus of claim 1, wherein the housing further comprises a

hardware interface connector sized and positioned to engage a hardware interface port on the portable electronic device when the housing is positioned on the housing port of the portable electronic device.

5. The apparatus of claim 1, further comprising a hardware interface connector sized and positioned within the housing to be accepted by a 120-pin or 120-receptacle hardware interface port.

sub 61  6. An apparatus for adding functionality to a portable electronic device, comprising:

- a housing sized to be accepted by a housing port of a portable electronic device, the housing having an interior portion; and
- a hardware interface connector positioned within the interior portion of the housing to be accepted by a hardware interface port of the portable electronic device, the hardware interface connector having between 1 and 120 receptacles, the hardware interface port having 120 pins;

wherein each receptacle corresponds to a pin in the hardware interface port, and wherein the receptacles form two rows in parallel such that each receptacle is positioned to be numbered corresponding to its position in one of the rows, and wherein one of the two rows includes receptacle positions 1 through 60, the other of the two rows includes receptacle positions 61 through 120, receptacle positions 1 and 61 being located at corresponding ends of each row, receptacle positions 60 and 120 being located at corresponding ends of each row, receptacle positions 1 and 120 being located at opposite ends of each row, and receptacle positions 60 and 61 being located at opposite ends of each row.

7. The apparatus of claim 6, wherein at least one of the receptacles corresponding to at least one of positions 50, 56, 57, 58, 60, 61, 62, 64, 65, 66, 68, 69, 70, 72, 73, 74, 76, 77, 80, 81, 82, 84, 85, 86, 88, 89, 105, 106, 108, and 110 corresponds to a bus located within the portable electronic device.

8. The apparatus of claim 6, wherein at least one of the receptacles corresponding to at least one of positions 111, 112, 113, 114, 116, 118, and 120 corresponds to power.

9. The apparatus of claim 6, wherein at least one of the receptacles corresponding to at least one of positions 3, 5, 7, 9, 11, 15, 19, 23, 27, 31, 35, 39, 47, 51, 55, 59, 63, 67, 71, 75, 79, 83, 87, 91, 95, 99, 103, 107, 109, 115, 117, and 119 corresponds to an electrical ground.

10. The apparatus of claim 6, wherein at least one of the receptacles corresponding to at least one of positions 90, 92, 93, 96, 97, 100, 101, 102, 104, and 105 corresponds to discrete input to or output from a microprocessor within the portable electronic device.

11. The apparatus of claim 6, wherein at least one of the receptacles corresponding to at least one of positions 2, 4, 6, 8, 10, 12-14, 16-18, 20-22, 24-26, 28-30, 32-34, 36-38 and 40, corresponds to discrete input to or output from a field programmable gate array within the portable electronic device.

add A'